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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/044,678      | 01/11/2002  | Patrick M. Teterud   | TI-32304            | 9716             |

23494 7590 04/23/2003

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EXAMINER

PATEL, ISHWARBHAI B

ART UNIT PAPER NUMBER

2827

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                      |                |  |
|------------------------------|----------------------|----------------|--|
| <b>Office Action Summary</b> | Application No.      | Applicant(s)   |  |
|                              | 10/044,678           | TETERUD ET AL. |  |
|                              | Examiner             | Art Unit       |  |
|                              | Ishwar (I. B.) Patel | 2827           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                           | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) = . | 6) <input type="checkbox"/> Other: .  |

## **DETAILED ACTION**

### ***Drawings***

1. Figure 7 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Further, figure 1 and 2 of US Patent No. 5,774,291 to Contreras et al. and figure 1 and 2 of US Patent No. 5,822,141 to Chang et al., are very similar to figure 7 and 8 of the present application, and should have been cited in the information disclosure statement.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Contreras et al., US Patent No. 5,774,291, hereafter, Contreras in view of Mohsen, US Patent No. 5,077,451.

Regarding claim 1, Contreras disclose a communication circuit for a head comprising connection points and said communication circuit connected to said head through the connection points (a printed circuit board 193 or a flexible circuit with AE module 194 coupled via connections in the printed circuit board to the read / write channel 190 and also to each read head and each write head in the plurality of head blocks 152, see figure 1 and 2, column 4, line 35-45, but

fails to explicitly disclose the arrangement of the connection points in form of first row and second row. However, the circuit board with connection points in the form of first row and second row, as disclosed by Mohsen, is known in the art, and can be designed to meet the specific interconnection requirements.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the circuit board of Contreras with connection points in the form of first row and second row, as taught by Mohsen, in order to have desired connections of the components.

Regarding claim 2-6, the applicant is claiming the first row of connections and second row of connections are used for either read head or write head and the locations of the connection points. Though, the modified assembly of Contreras does not explicitly disclose such specifics of using the connections points for either read head / read operation or write head / writer operation or its layout, any such connection points can

be used depending upon the specific layout of connection points for other elements along with read / write head and read / write operation and accommodating the connection points for other elements.

Therefore, it would have been obvious to provide the modified circuit board of Contreras with the layout of connections points for read / write head and read / write operation, as claimed, apparently, in order to have desired connections for the operation of the system.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Arya discloses a flex cable 304 with electrical reception pads 312; see figure 5-7, column 5, line 30-50.

Chung et al., discloses connection circuit 193, see figure 1-2.

Yan discloses pad set 46 for communication with read / write head, see figure 3-6 and 9.

Uno et al., disclose a flex circuit 42 with connection point for mounting integrated circuit 14 and for read / write connections, see figure 3 and 4.

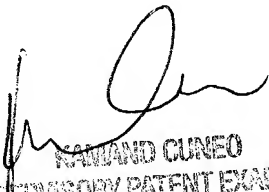
Olson et al., discloses a printed circuit board with footprints for mounting integrated circuits having a dual-in-line pinout configuration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (703) 305 2617. The examiner can normally be reached on M-F (8:30 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (703) 305 9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3431 for regular communications and (703) 305 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

ibp  
April 17, 2003

  
RANDALL CUNEO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800